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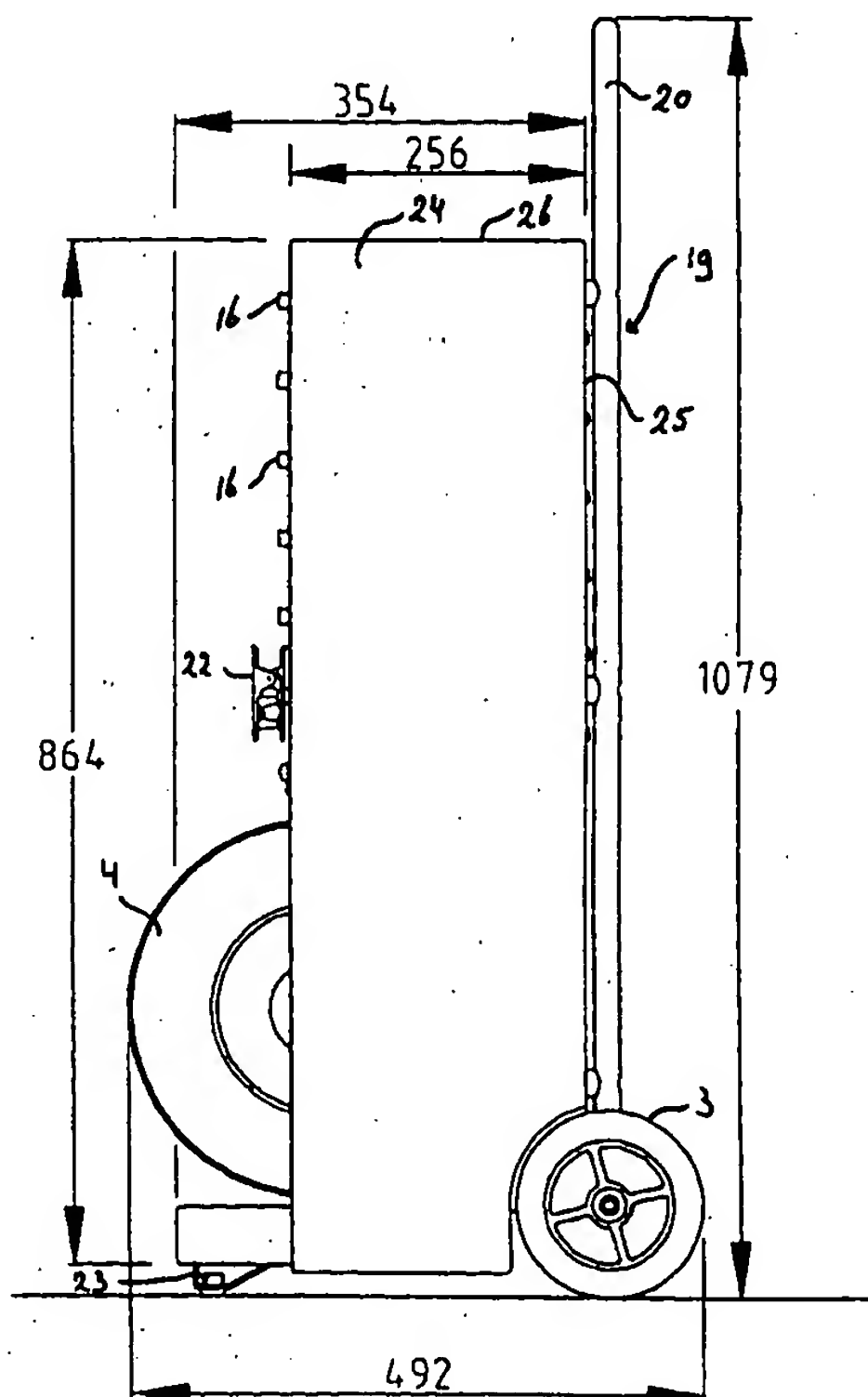
With international search report.

In English translation (filed in Dutch).

(54) Title: WHEELED DEVICE

(57) Abstract

Wheeled device with at least one running wheel; a frame and connecting parts on said frame, said connecting parts engaging at least one coiled, collapsed, folded or differently shortened elongated, flexible, preferably string- or tube-like object, such as wire or cable (e.g. electricity guiding) or tube (as for guiding a hydraulic or pneumatic fluid), wherein said object is preferably suspended from said connecting means, and with at least one container on said frame to contain at least one appliance preferably loose laying.



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Wheeled device.

The invention is concerned with a wheeled device, in particular for conveniently transporting and well-organised storing of tools and/or parts. Therefor the invention is characterised by the combination of features as indicated in claim 1. Preferably, standard parts are applied, e.g. the drawers, the wheels, the spring rules, the reels, to keep the cost price low. Convenient application and professional appearance are most important items. In particular assembling and maintenance workers have particular benefits.

An elaboration is given on the basis of the drawing. Fig. 1 is the front view. Fig. 2 is the side view. Fig. 3 is the sectional side view according to the line III-III in fig. 1. Fig. 4 is the back view. Fig. 5 is the bottom view. Fig. 6 is the sectional bottom view according to the line VI-VI in fig. 1. Fig. 7 is a principle illustration of the mounting part. Indicated dimensions are in millimeters.

List of parts:

20	1.	device	14	passage hole tube or wire
	2	frame (box like)	15	drawer
	3	running wheel	16	hand grip drawer
	4	reel	17	bottom of recess for drawer
	5	tube or wire	18	stop for drawer
25	6	strip	19	U-bracket
	7	~ shaped hole	20	grip
	8	spring rule house	21	cross bar
	9	measuring tape	22	scissors
	10	grip end rule	23	support
30	11	push bar	24	side panel
	12	push button	25	back panel
	13	release button rule	26	upper panel
	27	bottom panel	32	core
35	28	string	33	disc
	29	mounting hole	34	stop for drawer
	30	mounting part	35	shaft pin
	31	disc	36	stepper face

The reel 4 can preferably be split up in two along a plane substantially perpendicular to the centre line of rotation of the reel. Therefor the reel can be conveniently filled with tube or wire 5 that is supplied in a coil of convenient diameter. The reel can therefor be designed as shown in fig. 6. Alternatively the reel is comprised of a substantial plane, flat disc 31 and a similar disc 33 but with a central coaxial projecting part 32 projecting from the plane, to make the core of the reel. Both discs are mutually clamped by releasable fixing means on the shaft pin 35. The reels 4 are preferably conveniently removable supported such that replacement or filling of the reel 4 takes minimum time. In stead of three, there can be less or more reels 4. There can be reels at different levels as well, e.g. two levels on top of each other. Reels of differing diameter are possible as well. Preferably, the passage hole 14 has its edge covered with a harsh material, e.g. rubber, such that the tube 5 is securely held in the hole to prevent slipping from the hole. The tube 5 is uncoiled from the reel via the passage hole 14. The stops 18 and 34 for the drawer 15 prevent the drawer 15 from unintentional removal from the device, and make sure that the front is flush with the device's front if the drawer is closed. The tube 5 is e.g. electrical wire, glass fiber cable, cable, compressed air tube, string, etc.

While the spring rule house 8 is positioned on a large distance from the front face of the device according to the drawings, and a push button 12 and a push rod 11 are provided to actuate the release button of the spring rule, the spring rule house can also be positioned such that said release button is directly accessible from the front of the device to the finger of a controlling person, e.g. because said button 13 projects at least partly from said front. With the measuring tape 9 the appropriate length of the tube 5 to be taken from the reel can be measured. Different measure devices in stead of a spring rule are possible as well, however a spring rule a cheap and reliable standard part offering much comfort.

The drawer 15 can be filled with smaller, loose trays, e.g. in two rows of four trays each, extending behind each other in

the width-wise direction of the drawer. Said trays are e.g. filled with the necessary parts, and they are easily removable for e.g. refilling.

5 The side walls of the device bulge outwards (fig. 5) and the wheels preferably do not project from the side walls, such that there is less risk for bumping or jawing when driving with the device.

10 The U-bracket 19, extending over at least virtually the height of the device, can be eliminated as well, and the handle 20 can be replaced as well by e.g. a handle mounted on the upper panel 26, being e.g. a U-bracket the legs of which first extend upward from the panel 26 and then to the back such that the middle of the U projects above or outside the back panel 25. The shaft extending between the wheels 3 can extend within 15 the device as well, such that it is invisible.

The scissors 22 is connected to a string that is shortened and payed out automatically, and is therefor e.g. coiled on an automatic reel. In this way the scissors 22 can not be lost and can be used to cut the tube 5. In this way different tools 20 can be connected to the device as well, such that it can be brought to some distance from the device to be used there, while storing happens at least virtually automatic. The string can be stretchable as well, like elastic band.

25 The back panel 25 has a pattern of mounting holes 29 to selectively clamp one or more mounting parts 30. In this way e.g. tools can be suspended from the back side. The pattern offers flexibility of the lay out of the tools to be suspended. It will be appreciated that the same is applicable to the other side of the device. The pattern can be shaped different as well. The shape of the mounting holes 29 can be different as 30 well, e.g. depending on the type of mounting parts that are used. In this embodiment the mounting parts are easily removable, so called hang-in parts. However they can be permanently provided as well, e.g. by screw or clinch fasteners, such that 35 no pattern of mounting holes 29 is visible in that case. The mounting parts can also be embodied such that the tools are clamped thereon, e.g. by yielding brackets known as such. Fig. 7 shows several mounting parts to be hung in the holes 29.

The stepper face 36 at the bottom side can be used to hold the device during tilting. The two wheeled embodiment serves users comfort: is automatically braked and well controllable. The large wheels allow driving over rough surfaces. However, a multi wheeled embodiment, e.g. with a caster wheel at each corner, is possible too.

Different from the device as indicated in the drawing, it can have merely drawers or merely reels or differently stored tube or wire or equivalent. To prevent automatic extension of one or more drawers by tilting forward from the backward tilted drive position to the upright rest position, convenient brake- or stop means can be provided for such. According to a preferred embodiment the drawers can be guided along inclined drawer guides extending upward toward the front, wherein the inclination angle is preferably about 5° or 10° with the horizontal in the rest position of the device. In stead the drawers can have an inclined bottom to arrive at the same effect such that the drawer rises some during extension. Different alternatives are e.g. a stop that is merely active in the area if the drawer is fully or almost fully closed, such as an edge, such that the drawer must be lifted some prior to extension, or a magnet closure, but a manually actuated mechanical locking mechanism as well. To allow that the device can be layed on its back, e.g. for transport in a car of the so called station wagon type, it is preferable to provide the drawers such that no contents can roll or slide therefrom if the device is on its back. The drawer is therefor e.g. provided with a lid. Alternatively at least one of the trays in the drawer is provided with a lid. Most preferred is the provision of the device with a recess for a drawer having a top sheet 37 at a small distance above the upper side of the drawer in it, which sheet, in top view, at least substantially covers the drawer, such that no contents can be lost from the drawer. The distance between the top of the drawer and the top sheet depends on the dimensions of the parts and/or tools that are stored in the drawer, and is preferably about one cm. to a maximum. The top sheet can be completely closed, but can have holes or be e.g. a grid, the openings of which are small such that parts

and/or tools can not fall therethrough or are hooked therein. The top sheet 37 can be integral with the drawer guide for the drawer immediately above. As a further preferred means for transport on its back, e.g. to move the device on its back in a space the height of which is smaller than that of the device standing upright, the device can have one or more further wheels at some distance above the wheels 3, e.g. at its back close to the handle.

CLAIMS

1. Wheeled device with at least one running wheel, a frame and connecting parts on said frame, said connecting parts engaging at least one coiled, collapsed, folded or different-
5 ly shortened elongated, flexible, preferably string or tube like object, such as wire or cable (e.g. electricity guiding) or tube (as for guiding a hydraulic or pneumatic fluid), wherein said object is preferably suspended from said connecting means, and with at least one container on said frame to
10 contain at least one appliance preferably loose laying.
2. Device according to claim 1, wherein said container is a drawer and said frame has preferably a recess to slidably receiving said drawer.
3. Device according to claim 1 or 2, wherein there are at
15 least two drawers above each other.
4. Device according to any of the preceding claims wherein a container has a width that is about the same as the width of the device.
5. Device according to any of the preceding claims, wherein
20 the elongated flexible object is coiled on a reel, while there are rotation means such that said reel can be rotated, preferably around its perpendicular axis.
6. Device according to any of the preceding claims, wherein there are at least two reels next to each other, preferably
25 rotatable around at least substantially co-axial axis.
7. Device according to any of the preceding claims, wherein there are braking means, e.g. a pad of elastic yielding material, like rubber, engaging the elongated flexible object or the reel to brake its movement.
- 30 8. Device according to any of the preceding claims, wherein the coiled or otherwise shortened part of the elongated flexible object is below a container.
9. Device according to any of the preceding claims, wherein the at least one coiled or otherwise shortened part of the
35 elongated flexible object extends over a width at least substantially equal to the width of the container.
10. Device according to any of the preceding claims, wherein a reel can be placed in the frame in a direction perpendicular

to its direction of rotation, for which purpose there is e.g. a T-shaped hole, the free end of the horizontal leg of which debouches into the environment, the reel having a sideways projecting shaft pin projecting into said hole.

5 11. Device according to any of the preceding claims, wherein the frame has a passage means, like a passage hole, the free end of the flexible object being threaded through said hole, and wherein said passage means is preferably provided with
10 braking means like a rubber coating of the hole edge, to prevent unintended movement of said flexible object at said passage means, and wherein the dimension of said passage means is adapted to the cross sectional dimension of said flexible object, e.g. the free passage of said hole is a little larger than the cross sectional dimension of said flexible object.

15 12. Device according to any of the preceding claims, wherein the frame carries a measuring appliance, like a length measuring appliance, preferably of the spring rule type, wherein said measuring appliance can preferably be actuated from the front of the device, and there is preferably one measuring
20 appliance per coiled or differently shortened elongated flexible object.

13. Device according to any of the preceding claims, wherein the free end of the measuring appliance projects from the device and the measuring device has an arresting position and
25 there are release means, like a push button, to release the arresting position, for which the measuring appliance is preferably a standard spring rule in a housing with a release button and a push element extending from the front of the device and actuated by a push button bears against the release
30 button within the spring rule within the device.

14. Device according to any of the preceding claims, wherein an instrument or an appliance like a cutting or shearing element is preferably removably mounted to the frame, preferably with the aid of an extendable connecting element, like a
35 flexible pull means or string, such that under the returning action of said element one can remove the instrument from the frame and bring it to a selected position, while if the instrument is released it is brought back to its initial position.

on by automatic shortening of said connecting element.

15. Device according to any of the preceding claims, wherein there is a grip or push or pull handle.

5 16. Device according to any of the preceding claims, wherein said grip, push or pull handle is part of a U-shaped bracket extending upward from the axis of the running wheel preferably projecting above the frame, and wherein said U-shaped bracket preferably takes half the width of the device.

10 17. Device according to any of the preceding claims, wherein the wheels are at least substantially within the frame.

18. Device according to any of the preceding claims, wherein the reel projects beyond the front of the container over about half its diameter.

15 19. Device according to any of the preceding claims, wherein at the side of the device opposite the running wheel there is a supporting foot, preferably positioned in front of the front side of the container, preferably with a distance of about half the radius of the reel.

20 20. Device according to any of the preceding claims, wherein the frame has a shell of sheet material, preferably with two side panels, a back panel, a top panel and possibly a bottom panel, which shell contains the at least one container and the at least one elongated flexible object, wherein possibly a part of the at least one reel projects forward from said
25 shell.

21. Device according to any of the preceding claims, wherein the grip, push or pull handle is mounted at the back side of the shell.

30 22. Device according to any of the preceding claims, wherein at least one elongated flexible object or at least one reel is removed.

23. Device according to any of the preceding claims, at least one of its outer sides having means for temporary connection of parts and/or tools.

35 24. Device according to any of the preceding claims, having means to prevent unintended extension of a drawer when putting in the upright position from the backward tilted position, wherein said means are preferably intended to guide the drawer

upward during extension.

25. Device according to any of the preceding claims, wherein it comprises one or more further running wheels to allow driving of the device if put on its back or side without
5 needing support apart from the running wheels to hold the device stable in said position.

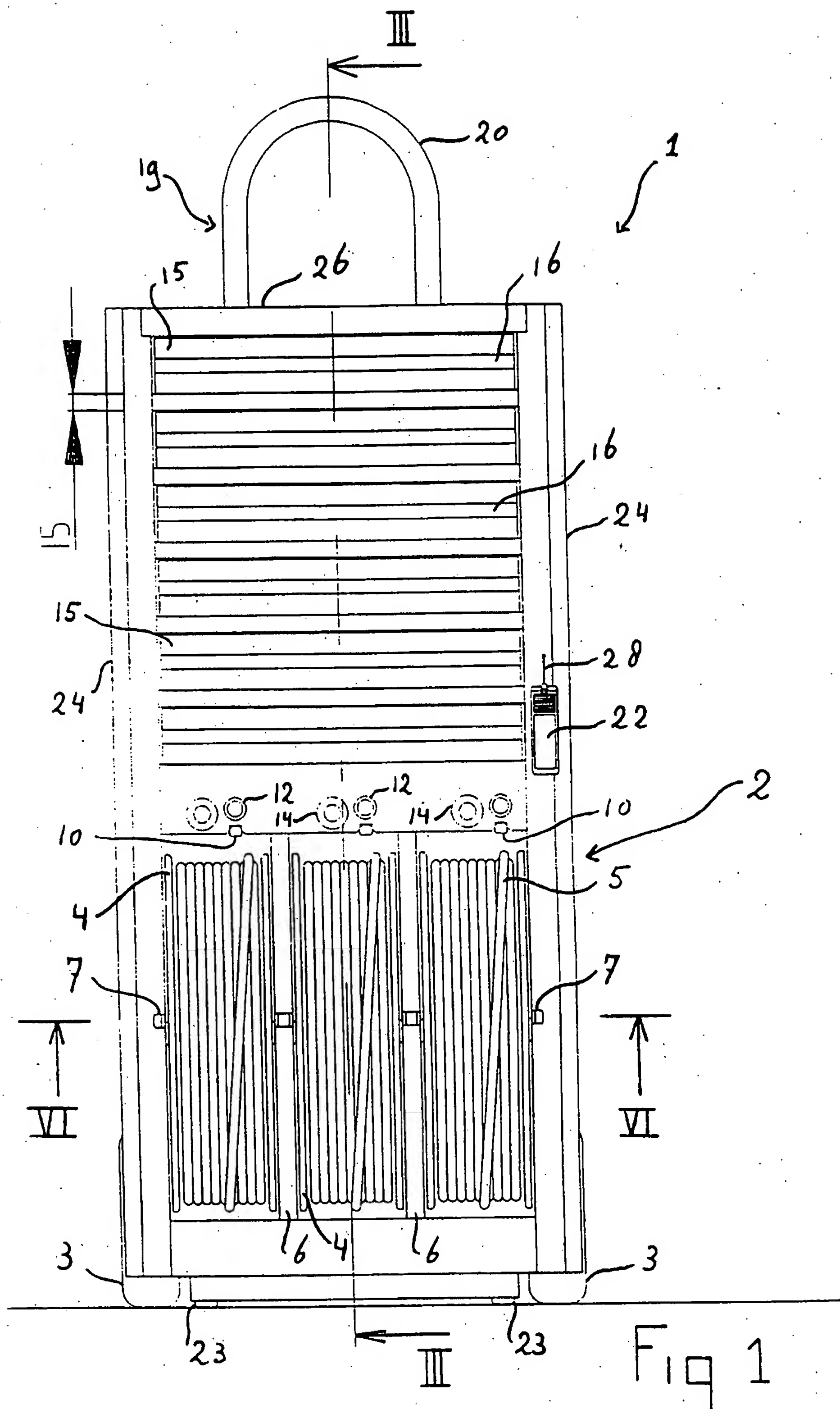
26. Device according to any of the preceding claims, wherein it comprises means to prevent the loss of an object from a drawer in the tilted position of the device, wherein said
10 means preferably comprise a sheet or grid fixed above said drawer.

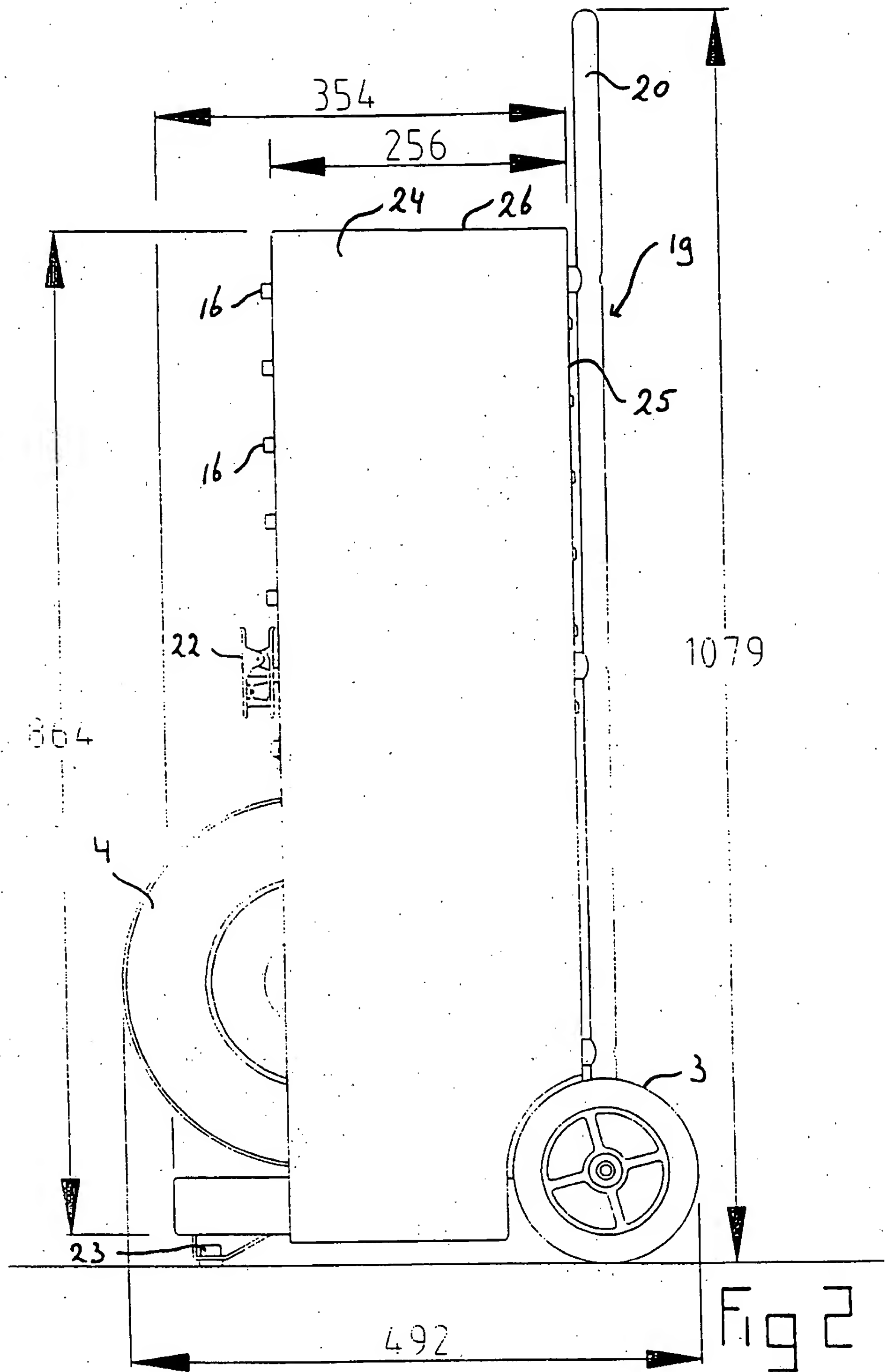
27. Device according to any of the preceding claims, wherein it is exclusively designed to contain an elongated flexible, preferably string or tube like object and so does not comprise
15 a container on the frame to contain at least one appliance.

28. Device according to any of the preceding claims 1-26, wherein there is no drawer or recess for a drawer.

29. Device according to any of the preceding claims 1-26, wherein there is no mounting means, engaging the elongated
20 flexible object.

30. Device according to any of the preceding claims 1-26, wherein there is no reel or space for such reel for an elongated flexible object.





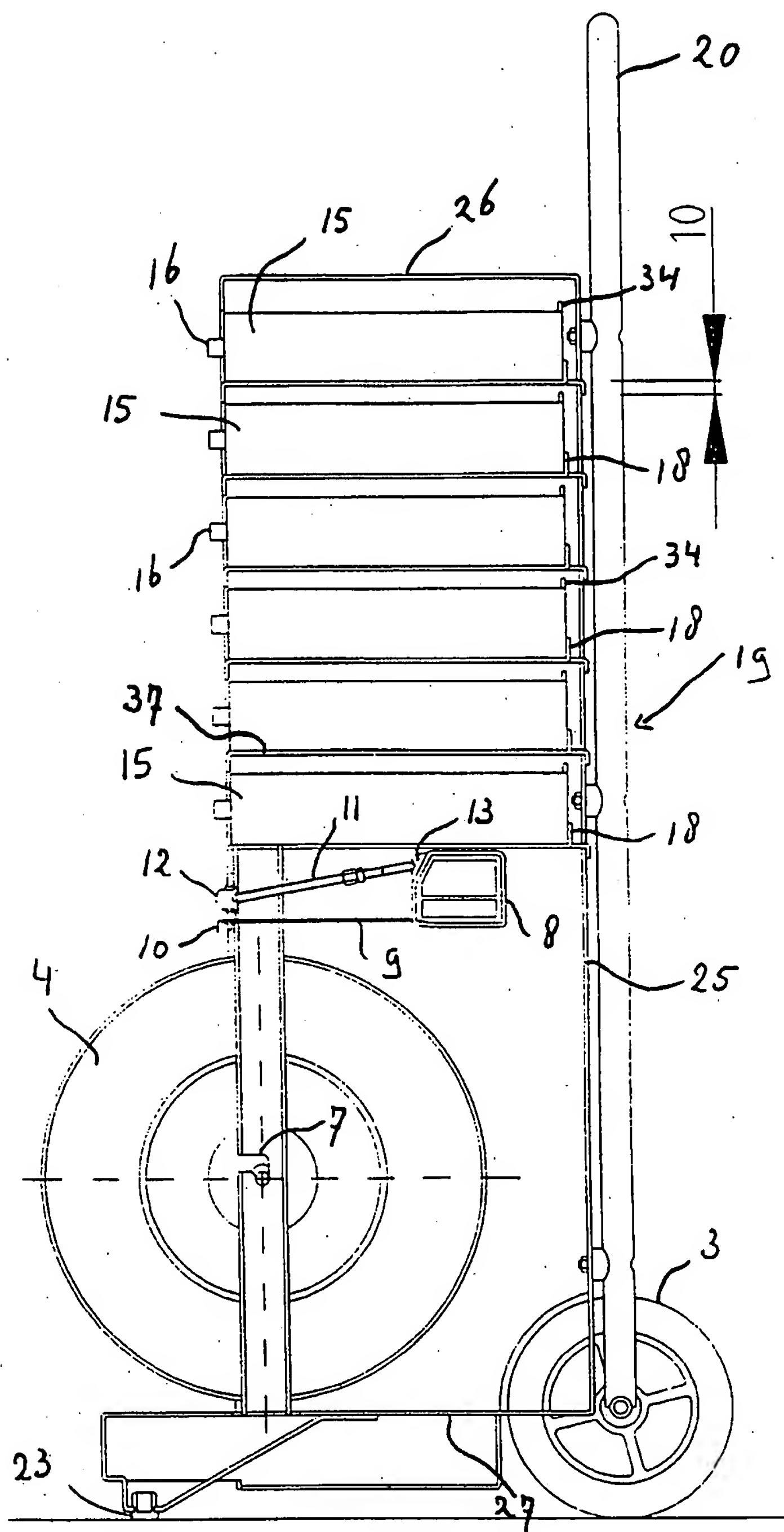


Fig 3

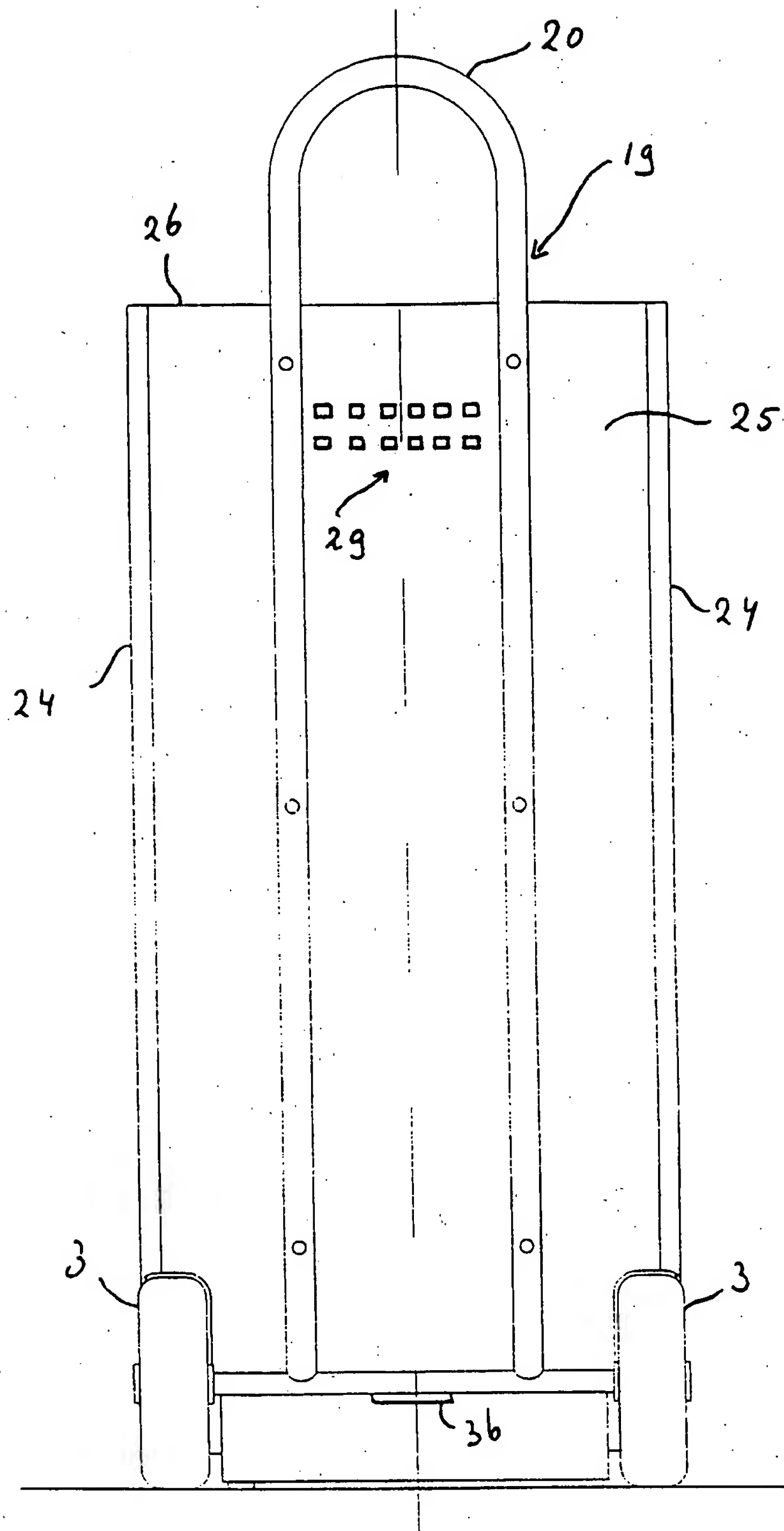
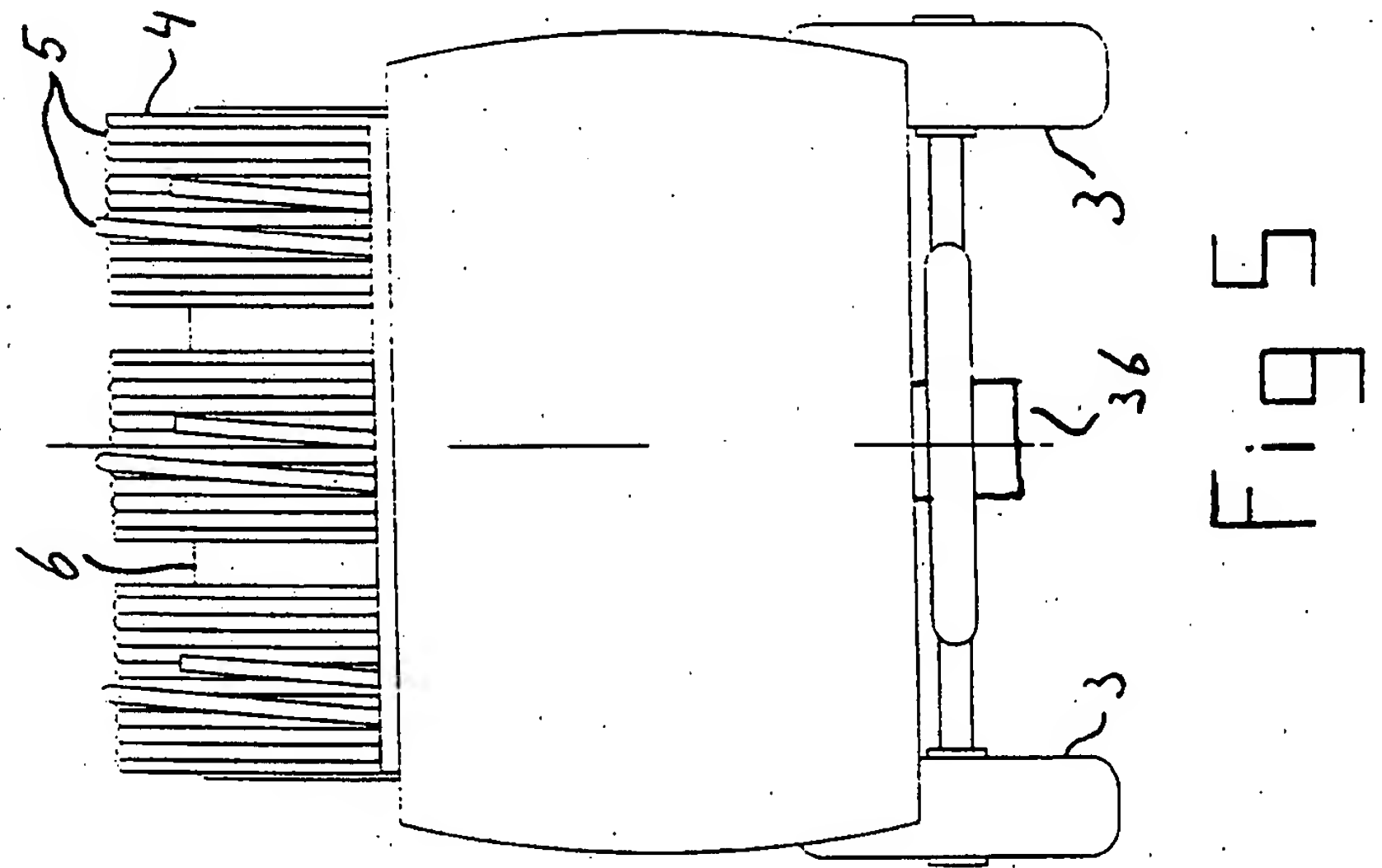
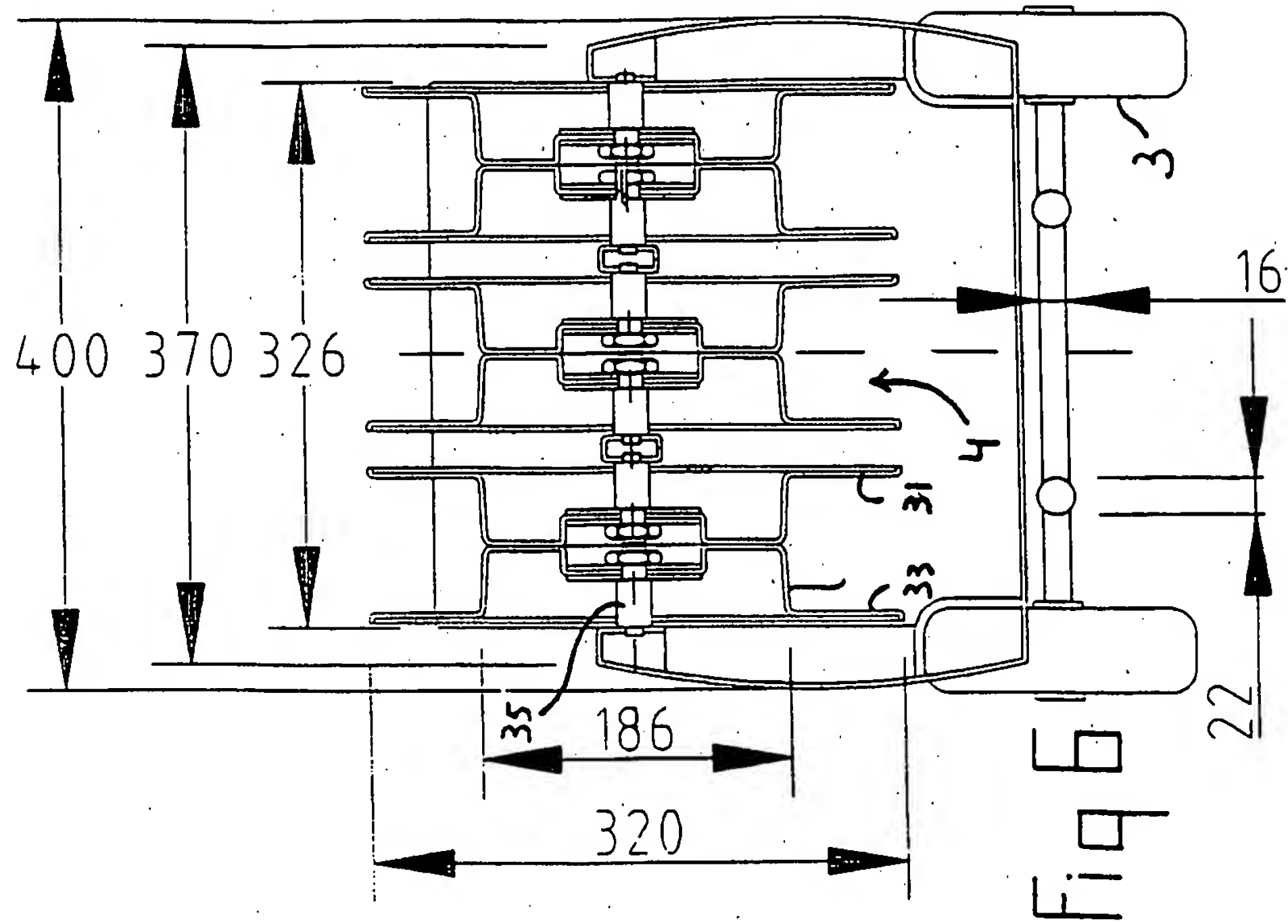


Fig 4



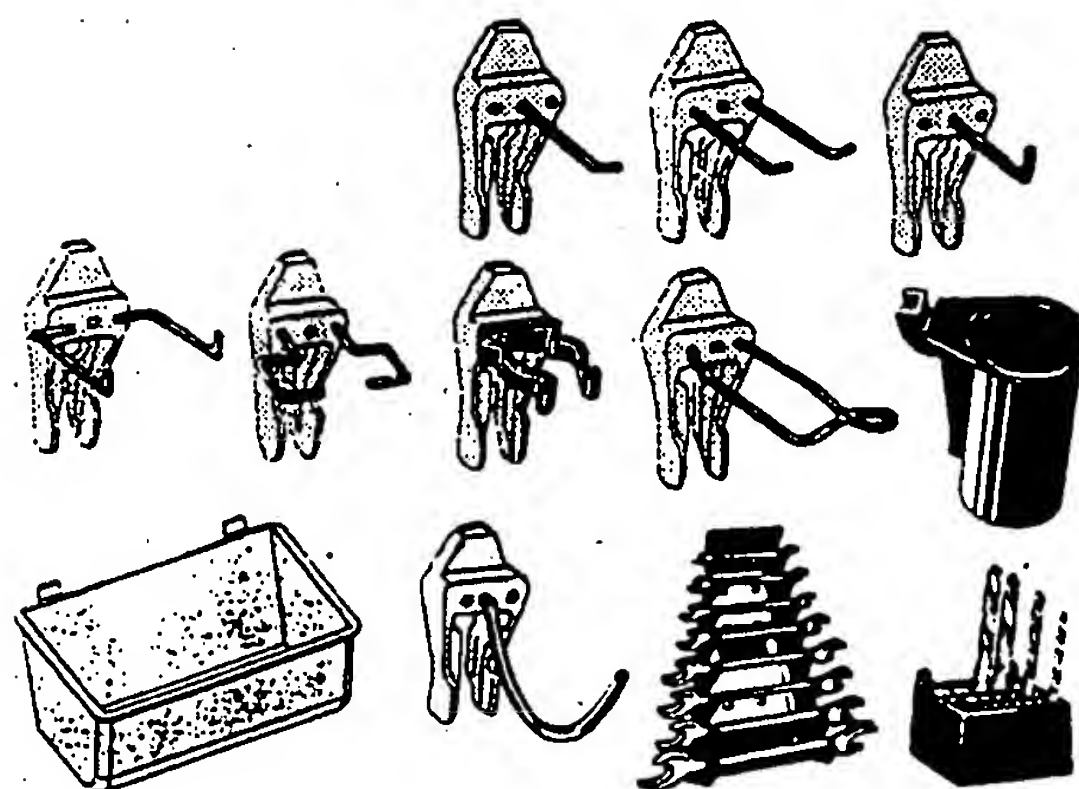
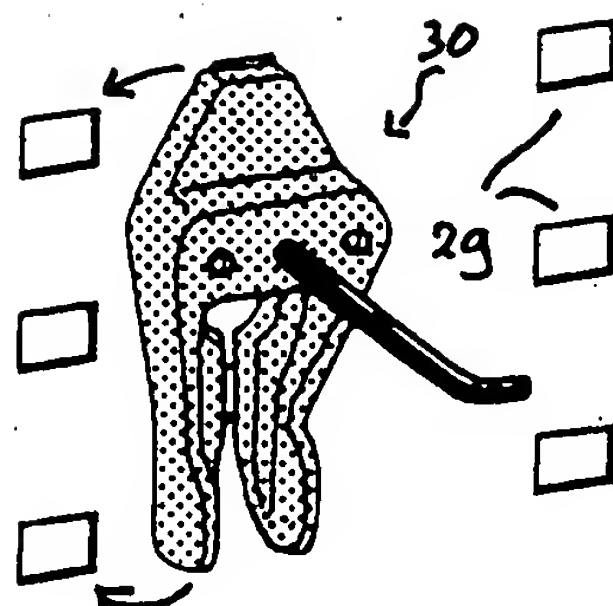


Fig 7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 98/00293

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 B62B1/26 B65H49/32 B25H3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B62B B65H B25H

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 457 527 A (LOWERY A J) 3 July 1984	1, 3, 5, 6, 8-11, 15, 17-23, 25, 27-30
Y	see the whole document	7, 11-14
A	US 5 207 723 A (NEWBY SR JOHN P) 4 May 1993	
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A	US 4 538 775 A (DEISSENBERGER HANS) 3 September 1985 see abstract; figures	7, 11-14



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Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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Y	US 4 537 106 A (RIDER EARLE B) 27 August 1985 see the whole document ---	7,11-14
X	US 5 240 264 A (WILLIAMS THOMAS L) 31 August 1993 see the whole document -----	30

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Information on patent family members

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